

Image 1764
1725

F-7129



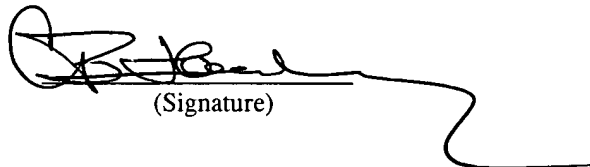
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Johann Michael KOEHLER
Serial No. : 09/914,874
Filed : September 5, 2001
For : MICROCOLUMN REACTOR
Group Art Unit : 1764
Examiner : UNKNOWN

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C. Bruce Hamburg
(Name)


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INFORMATION DISCLOSURE STATEMENT

Sir:

Submitted herewith is an Information Disclosure Citation together with copies of references referred to therein.

The Kessler and Ulmanns publications describe standard bioreactors used for fermentation processes. All types of bioreactors and further mechanical equipment are depicted in Figures 19.8 to 19.10 on pages 447 and 448. Kessler

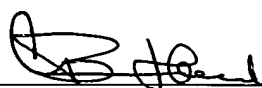
also describes, on page 448, a reactor type using enzymes immobilized on a medium for chemical reaction. A micro-column reactor for carrying out reactions on solid phases and/or biological cells comprising substrate wafers used for synthesis and separation processes is not mentioned in Kessler.

Ullmanns is an outline of fluidized bed reactors for performing chemical reaction. This chapter summarizes state of the art techniques on fluidized bed reactors as well as advantages and disadvantages of fluidized bed reactors compared to other techniques such as solid bed, stationary bed or pneumatic transport. A micro-column reactor for carrying out reactions on solid phases and/or biological cells comprising substrate wafers used for synthesis and separation processes is not mentioned in Ullmanns.

Respectfully submitted,

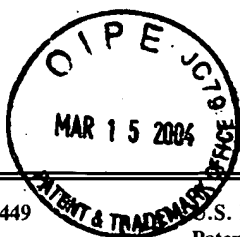
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| INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) | | | | Applicant: Johann Michael KOEHLER | | Filing Date: | |
| | | | | Group: 1764 | | | |
| U.S. PATENT DOCUMENTS | | | | | | | |
| Examiner Initial | | Document Number | Date | Name | Class | Subclass | Filing Date If Appropriate |
| | | 5,304,487 | 4/19/1994 | Wilding et al. | | | |
| | | 5,534,328 | 7/9/1996 | Ashmead et al. | | | |
| FOREIGN PATENT DOCUMENTS | | | | | | | |
| | | Document Number | Date | Country | Class | Subclass | Translation |
| | | | | | | | Yes No |
| | | 98/00231 | 1/8/1998 | WO | | | N |
| TRANSLATION KEY: * English Abstract. ^F Concise statement of relevance provided in foreign search report. ^C Concise statement of relevance provided in specification. ^S Concise statement of relevance provided in IDS. ^P Relevant portion of reference translated. ^O English abstract only - copy of reference in pct search. | | | | | | | |
| OTHER INFORMATION DISCLOSURE CITATIONS (Including Author, Title, Date, Pertinent Pages, Etc.) | | | | | | | |
| | | Kessler, H.G., Lebensmittel- und Bioverfahrenstechnik - Verlag A. Kessler, Freising 1988 Pages 446-450. | | | | | |
| | | Ullmanns Enzyklopaedie der technischen Chemie, VCH Verlags GmbH, Weinheim, 1973, Pages 434 - 436 and page 449. | | | | | |
| EXAMINER | | | | DATE CONSIDERED | | | |
| EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | | | | | | | |